

# 教師支持、高中生學習投入與數學成就之關係

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## 摘要

本研究主要目的在於探討高中職學生教師支持、學習投入與數學成就之關係。首先探討不同背景變項間之高中職學生在教師支持、學習投入及數學成就之差異分析；其次檢視高中職學生的教師支持、學習投入與數學成就之相關分析；最後以高中職學生的教師支持、學習投入對數學成就做徑路分析。本研究以中部地區高中職一、二年級學生為母群體，以便利取樣的方式，共抽取510位高中職學生為樣本，並施以「個人基本資料表」、「教師支持量表」、「學習投入量表」。「數學成就」則以101學年度第二學期第二次月考數學分數轉換成班級T分數。所得資料以獨立樣本t檢定、皮爾森積差相關及徑路分析進行處理。本研究之發現如下：(一)不同性別的高中職學生在教師支持有顯著差異。(二)不同社會經濟地位的高中職學生在教師支持上之「勝任感支持」有顯著差異。(三)不同性別的高中職學生在學習投入有顯著差異。(四)不同社會經濟地位的高中職學生在學習投入無顯著差異。(五)高中職學生教師支持與學習投入有顯著正相關；教師支持與數學成就有顯著正相關；學習投入與數學成就有顯著正相關。(六)教師支持會直接影響高中職學生學習投入；教師支持會間接影響高中職學生數學成就；而學習投入會直接影響數學成就。根據以上發現，本研究對數學教師及未來的研究方向提出一些建議。

關鍵詞：教師支持、學習投入、數學成就

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## 參考文獻

- 一、中文部分 王永裕(2006)。雲林縣國中、小學生成就目標導向、認知投入、考試焦慮與學業成就之關係研究－以數學領域為例。國立彰化師範大學，彰化市。王枝燦(2001)。同儕影響與青少年偏差行為之研究。東吳大學社會學研究所，台北市。石文宜(2006)。國中生人格特質、師生互動關係與偏差行為之關係。國立政治大學，台北市。石培欣(2000)。國民中學家庭環境、同儕關係與學業成就之相關研究。國立高雄師範大學，高雄。余民寧(2006)。影響學習成就因素的探討。教育資料與研究，73，14。吳明隆(2007)。SPSS統計應用學習實務：問卷分析與統計。台北：知城。巫有鑑(2007)。學校因素對台東縣原漢國小學生學業成就的影響：結合教育機會均等與學校效能研究的分析模式。國立屏東教育大學，屏東市。李介至、黃惠貞(2001)。青少年社會支持之問題分析－從社會計量之觀點探討。中等教育，52(5)，150-160。李秋娟(2011)。國小學童數學課室目標結構、家庭教養方式與學習投入及學業成就之關係研究。私立東海大學，

台中市。李素菁(2002)。青少年家庭支持與幸福感之相關研究 以臺北市立國中生為例。私立靜宜大學，台中市。杜容瑩(2007)。台北市國中學生學業無動機，社會支持與學業成就關係之研究。台北市立教育大學，台北市。周新富(1999)。國民小學教師專業承諾、教師效能信念與學生學業成就關係之研究。國立高雄師範大學，高雄市。林文瑛、王震武、黃富源(1999)。青少年犯罪形成歷程的學校因素探討。論文發表於「台灣社會問題研究學術研討會」，台北：中央研究院社會問題研究推動委員會暨中央研究院社會學研究所。(NSC88-2418-H-030-001-Q14) 林生傳(2000)。教育社會學。台北：巨流。林妙貞(2007)。國小學童創意自我效能、目標導向、依附關係與創意活動投入及創意表現之關係-以科展團隊為例。國立台北教育大學，台北市。林啟超(2008)。父母親成就教養取向、課室目標結構對高職學生之成就目標與學習行為之關係。測驗統計年刊，16，59-84。林淑惠、黃韞臻、林佳筠(2009)。中部地區五專學生社會支持、情緒智力及生活適應之相關研究。學校衛生，55，41-66。施淑慎(2009)。自主學習，快樂而投入。科學發展，436，74-75。胡綺祐(2011)。國中學生主觀控制知覺、自主性與學習投入之關係研究。國立彰化師範大學，彰化市。唐建雄(2005)。高職學生家庭環境、學習動機與生涯期望及學業成就之研究。國立彰化師範大學，彰化市。師瑋瑋、田琨(2006)。淺談自我決定論與青少年內部動機發展。遼寧教育行政學院學報，23(5)，57-58。翁福元(2006)。影響學習成就之社會因素比較分析。教育資料集刊，32，23-39。張怡真(2007)。父母教養方式、教師支持與國三學生偏差行為之關聯性研究。國立成功大學，臺南市。張春興(1996)。教育心理學-三化取向的理論與實踐。臺北市：東華。張春興、林清山(1989)。教育心理學。臺北市：東華。梁翠珊(2006)。不同學區、年級國中學生自然科學學習動機差異之研究。國立彰化師範大學，彰化市。陳彥甫(2001)。國中學生主觀控制感與教學情境及學習行為之相關研究。國立屏東教育大學，屏東市。陳婉玉(2010)。國小英語分組與能力高低對學生的學習動機與學習投入之調節效果。國立台北教育大學，台北市。陳惠珍(2010)。國中學生對任課老師自主支持知覺、自動動機與學習投入之關係研究 以數學科為例。國立彰化師範大學，彰化市。陳嘉惠(2007)。國中學生知覺教師期望、自我效能與學業成就關係之研究--以新竹縣市為例。彰化師範大學，彰化市。陳麗麗(2010)。高中生數學自我概念、數學自我效能與數學學業成就之相關研究 - 以巴生區四間獨中為例。國立彰化師範大學，彰化市。單延愷(1995)。青少年自殺行為危險因子與危險警訊之探討。私立中原大學，桃園市。曾妙音、王雅玲、李瓊雯、張恬瑜(2011)。父母社經地位與國中生學習動機、學業成就之相關性研究。家庭教育雙月刊，32，6-27。程炳林(2002a)。大學生學習工作、動機問題與自我調整學習策略之關係。教育心理學報，33，79-101。黃怡瑛(2009)。家長背景與居住地對國小學生數學學習成效影響之研究。私立亞洲大學，台中市。黃俊傑、王淑女(2001)。家庭、自我概念與青少年偏差行為。應用心理研究，11，45-68。黃俐婷(2003)。探討青少年接受到的社會支持。社區發展季刊，103，144-156。黃雅玲(2009)。國中學生所知覺的導師班級經營效能、學生自我概念與學生學習動機之關聯性研究 - 以桃園縣為例。私立中原大學，桃園市。黃德祥(2010)。青少年發展與輔導。台北市：五南。葉在庭(2001)。青少年情緒調適、焦慮、社會支持及生活事件與自殺意念的關係。中華輔導學報，10，151-178。劉盈芳(2010)。學校依附感與教師支持。國立台北大學，台北市。劉漢政(2010)。國中學生社會支持、憂鬱傾向與網路成癮之分析研究。國立嘉義大學，嘉義市。蔡東敏(2002)。職校學生之重要他人影響、學習態度、學習動機與學業成就之相關研究。國立台灣科技大學，台北。蔡金鈴(2006)。彰化縣國中學生學校氣氛知覺、人際關係、學校投入與學業成就之關係研究。彰化師範大學，彰化市。鄭照順(1996)。高壓力青少年所知覺的家庭、社會支持及其因應效能之研究。國立高雄師範大學，高雄市。盧俊安(2011)。影響高中職學生數學學習成效因素之研究。國立雲林科技大學，雲林。賴英娟(2010)。教師支持、數學自我效能及數學興趣對職業意向之影響。中華輔導與諮商學報，28，1-27。賴鑫城(1992)。國中學生自我概念、學業成就、師生關係對學校態度之研究。國立高雄師範大學，高雄市。薛人華(2009)。學業謙虛、學習投入與學業成就的關係。國立台北教育大學，台北市。鍾文悌(2004)。外籍配偶子女學業表現與生活適應之相關研究。國立屏東教育大學，屏東市。鍾明芬(2009)。影響學生學習成效關鍵成功因素之彙總分析。國立彰化師範大學，彰化市。簡新哲(2012)。國中學生自然科學學習動機、教師支持、學習投入與學業成就之研究。私立大葉大學，彰化。魏麗敏、黃德祥(2001)。國中與高中學生家庭環境、學習投入狀況與自我調節學習及成就之研究。中華輔導學報，10，63-118。蘇美如(2009)。國小體育教師支持和學生體育課參與動機歷程之關係研究—自我決定理論之檢驗。國立台北教育大學，台北市。龔心怡、林素卿與張馨文(2009)。家長社經地位與數學學習動機對數學學業成就之研究—以國中基本學力測驗數學領域為例。彰化師大教育學報，15，121-142。二、英文部分 Ahmed, M., Minnaert, A., Werf, G., & Kurper, H. (2010). Perceived social support and early adolescents' achievement: The mediational roles of motivation beliefs and emotions. *Journal of Youth and Adolescence*, 39(1), 36-46. Alexander, K. L., Entwistle, D. R. and Dauber, S. L. (1993). First-grade classroom behavior: its short- and long-term consequences for school performance. *Child Development*, 64, 801 – 814. Alexander, K. L., Entwistle, D. R., & Horsey, C. S. (1997). From first grade forward: Early foundations of high school dropout. *Sociology of Education*, 70, 87-107. Ali, S. R., & McWhirter, E. H. (2006). Rural appalachian youth 's vocational/educational postsecondary aspirations: Applying social cognitive career theory. *Journal of Career Development*, 33(2), 87-111. Andrews, M., Duncombe, W., & Yinger, J. (2002). Revisiting economies of size in American education: Are we any closer to consensus? *Economics of Education Review*, 21(3), 245-262. Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review*, 84, 191 – 215. Bandura, A. (1986). Social foundations of thought and action: A social cognitive theory. Englewood Cliffs, NJ: Prentice-Hall. Bandura, A., & Locke, E. A. (2003). Negative self-efficacy and goal effects revisited. *Journal of Applied Psychology*, 88(1), 87-99. Beggs, J. J., Haines, V. A., & Hurlbert, J. S. (1996). Situational contingencies surrounding the receipt of informal support. *Social Forces*, 201 – 222. Brown, A. L., Campione, J. C., & Day, J. D. (1981). Learning to Learn: On Training Students to Learn from Texts. *Educational Researcher*, 10(2), 14-21. Burk, W. J., & Laursen, B. (2005). Adolescent perceptions of friendship and their associations with individual adjustment. *International journal of behavioral development*, 29(2), 156. Caplan, G. (1974). Support system and community mental health. New York: Behavioral. Chang, D. C. (2008). A case study to determine what perceived factors, including student engagement, contribute to academic achievement in a high performing urban high school. Los Angeles, CA: University of Southern California. Chapman, E. (2003). Assessing Student Engagement Rates. ERIC Digest. ERIC. The Educational Resources Information Center US; Maryland, 4. Chirkov, V. I., & Ryan, R. M. (2001). Parent and teacher autonomy-support in

Russian and US adolescents. *Journal of Cross-Cultural Psychology*, 32(5), 618 – 635. Cobb, S. (1976). Social Support as a moderator of life stress. *Psychosomatic Medicine*, 38, 300-314. Coleman, J. S., Cambell, E. Q., Hobson, C. J., McPartland, J., Mood, A. M., Weinfeld, f. D., & York, R. L. (1966). Equality of educational opportunity. Washington, DC: U.S. Government Printing Office. Connell, J. P., & Wellborn, J. G. (1991). Competence, autonomy, and relatedness: A motivational analysis of self-system processes. *The Minnesota Symposia on Child Development*, 23, 43-78. Connell, J. P., Halpem-Felsher, B. L., Clifford, E., Crichlow, W., & Usinger, P. (1995). Hanging in there: Behavioral, psychological, and contextual factors affecting whether African American adolescents stay in school. *Journal of Adolescent Research*, 10, 41-63. Connell, J. P., Spencer, M. B., & Aber, J. L. (1994). Educational risk and resilience in African-American youth: Context, self, action, and outcomes in school. *Child development*, 65(2), 493 – 506. Dornbusch, S. M., Ritter, P. L., Leiderman, P. H., Roberts, D. F., & Fraleigh, M. J. (1987). The Relation of Parenting Style to Adolescent School Performance. *Child Development*, 58(2), 1244-1257. Duff, B. (2006). Senior project as a remedy for “senioritis” : What are the active ingredients? Gainesville, FL: University of Florida. Fan, W., & Williams, C. M. (2010). The effects of parental involvement on students’ academic self-efficacy, engagement and intrinsic motivation. *Educational Psychology*, 30(1), 53. Farmer, H. S. (1985). Model of career and achievement motivation for women and men. *Journal of Counseling Psychology*, 32(3), 363. Finn, J. D., & Cox, D. (1992). Participation and withdraw among fourth-grade pupils. *American Educational Research Journal*, 29, 141-162. Finn, J. D., & Rock, D. A. (1997). Academic success among students at risk for school failure. *Journal of Applied Psychology*, 82(2), 221. Fredricks, J. A., Blumenfeld, P. C., & Paris, A. H. (2004). School engagement: Potential of the concept, state of the evidence. *Review of Educational Research*, 74(1), 59-109. Glanville, J. L., & Wildhagen, T. (2007). The measurement of school engagement. *Educational and psychology Measurement*, 67(6), 1019-1041. Greene, B. A., Miller, R. B., Crowson, H. M., Duke, B. L., & Akey, K. L. (2004). Predicting high school students’ cognitive engagement and achievement: Contributions of classroom perceptions and motivation. *Contemporary Educational Psychology*, 29, 462-482. Grolnick, W. S., & Ryan, R. M. (1989). Parent styles associated with children’s self-regulation and competence in school. *Journal of Educational Psychology*, 81(2), 143-154. Hallinan, M. T. (2008). Teacher influences on students’ attachment to school. *Sociology of Education*, 81(3), 271-283. House, J. S. (1981). Work stress and social support. Reading, MA: Addison-Wesley Publishing Company. House, J. S. (1987). Social support and social structure. *Sociological Forum*, 2, 135-146. House, J. S., Umberson, D., & Landis, K. R. (1988). Structures and processes of social support. *Annual review of sociology*, 293-318. Inga-Dora, S., George, F., & Eric, S. (2004). The role of depressed mood and anger in the relationship between family conflict and delinquent behavior. *Journal of Youth and Adolescence*, 33(6), 509-522. Jimerson, S. R., Campos, E., & Greif, J. L. (2003). Toward an understanding of definitions and measures of school engagement and related terms. *The California School Psychologist*, 8, 7 – 27. Kathryn, R. W., Ann. B., Shannon, L. R., & Lisa, B. L. (2010). Social supports from teachers and peers as predictors of academic and social motivation. *Contemporary Educational Psychology*, 35, 193-202. Kearsley, G., & Shneiderman, B. (1998). Engagement theory: A framework for technology-based teaching and learning. *Educational Technology*, 38(5), 20-23 Kilpatrick, J., Swafford, J., & Findell, B. (2001). Adding it up: Helping children learn mathematics. Washington, DC: National Academies Press. Kindermann, T. A., McCollam, T., & Gibson, E. (1996). Peer networks and students’ classroom engagement during childhood and adolescence. In J. Juvonen & K. Wentzel (Eds.), *Social motivation: Understanding children’s school adjustment* (pp. 279-312). Cambridge, UK: Cambridge University Press. Klem, A. M., & Connell, J. P. (2004). Relationships matter: Linking teacher support to student engagement and achievement. *Journal of School Health*, 74(7), 262-273. Kuh, G. D. (2003). What we are learning about student engagement from NESS: Benchmarks for effective educational practices. *Change*, 35(2), 24-32. Kuh, G. D. (2009). What student affairs professionals need to know about student engagement. *Journal of College Student Development*, 50(6), 683-706. Kuh, G. D., Kinzie, J., Schuh, J. H., & Whitt, E. J. (2005a). Assessing conditions to enhance educational effectiveness: The inventory for student engagement and success. San Francisco, CA: Jossey-Bass. Ladd, G. R., & Dinella, G. M. (2009). Continuity and change in early school engagement: Predictive of children’s achievement trajectories from first to eighth grade? *Journal of Educational Psychology*, 101(1), 190-206. Lau, S., & Roeser, R. W. (2002). Cognitive abilities and motivational processes in high school students’ situational engagement and achievement in science. *Educational Assessment*, 82(2), 139-162. Lee, V. E., & Smith, J. B. (1997). High school size: What works best and for whom? *Educational Evaluation and Policy Analysis*, 19(3), 205-227. Legault, L., Green-Demers, I., & Pelletier, L. G. (2006). Why do high school students lack motivation in the classroom? Toward an understanding of academic motivation and social support. *Journal of Educational Psychology*, 98(3), 567-582. Lempers, J. D., & Clark-Lempers, D. S. (1992). Young, middle, and late adolescents’ comparisons of the functional importance of five significant relationships. *Journal of Youth and Adolescence*, 21(1), 53-96. Lent, R. W., Brown, S. D., Brenner, B., Chopra, S. B., Davis, T., Talleyrand, R., & Suthakaran, V. (2001). The role of contextual supports and barriers in the choice of math/science educational options: A test of social cognitive hypotheses. *Journal of Counseling Psychology*, 48(4), 474. Li, Y., Lerner, J. V., & Lerner, R. M. (2010). Personal and ecological assets and academic competence in early adolescence: The mediating role of school engagement. *Journal of Youth and Adolescence*, 39(7), 801-815. Ma, X. (2005). Growth in mathematics achievement: Analysis with classification and regression trees. *Journal of Educational Research*, 99(2), 78-86. Manlove, J. (1998). The influence of high school dropout and school disengagement on the risk of school-aged pregnancy. *Journal of Research on Adolescence*, 82, 187-220. Marks, G. (2006). Family size, family type and student achievement: Cross-national differences and the role of socioeconomic and school factors. *Journal of Comparative Family Studies*, 37(1), 1-24. Marks, H. M. (2000). Student engagement in instructional activity: Patterns in the elementary, middle, and high school years. *American Educational Research Journal*, 37(1), 153-184. Melor, M. Y., Wan, S. W. O., & Noriah, M. I. (2011). Teacher-student relationship factor affecting motivation and academic achievement in ESL classroom. *Procedia Social and Behavioral Sciences*, 15, 2637-2641. Metheny, J., McWhirter, E. H., & O’Neil, M. E. (2008). Measuring perceived teacher support

and its influence on adolescent career development. *Journal of Career Assessment*, 16(2), 218-237. Mingming, Z., Wei, J. M., & Edward L. D. (2009). The importance of autonomy of rural Chinese children ' s motivation for learning. *Learning and Individual Differences*, 19, 492-498. Muller, C. (2001). The role of caring in the teacher-student relationship for at-risk students. *Sociological inquiry*, 71(2), 241-255. Murray, C. (2002). Supportive teacher-student relationships: Promoting the social and emotional heath of early adolescents with high incidence disabilities. *Childhood Education*, 78, 285-290. National Research Council & Institute of Medicine. (2004). *Engaging schools: Fostering high school students ' motivation to learn*. Washington, DC: National Academy Press. Newman, R. S. (2000). Social influences on the development of children ' s adaptive help seeking: The role of parents, teachers, and peers. *Developmental Review*, 20, 350-404. Newmann, F. M. (1992). Student engagement and achievement in American secondary schools. New York: Teachers College Press. Newmann, F., Wehlage, G. G., & Lamborn, S. D. (1992). The significance and sources of student engagement. In F. Newmann (Ed.), *Student engagement and achievement in American secondary schools* (pp. 11-39). New York: Teachers College Press. Noddings, N. (1992). *The challenge to care in schools: An alternative approach to education*. New York: Teachers College Press. Noddings, N. (2003). *Caring: A feminine approach to ethics and moral education*. Berkeley: University of California Press. O'Farrell, S. L., & Morrison, G. M. (2003). A factor analysis exploring school bonding and related constructs among upper elementary students. *The California School Psychologist*, 8, 53-72. Papanastasiou, C. (2002). Effects of background and school factors on the mathematics achievement. *Educational Research & Evaluation*, 8(1), 55-70. Pascarella, E. T., & Terenzini, P. T. (1991). *How college affects students: Findings and insights from twenty years of research*. San Francisco, CA: Jossey-Bass. Pascarella, E., & Terenzini, P.T. (2005). *How college affects students: Findings and insights from twenty years of research*. San Francisco, CA: Jossey-Bass. Pintrich, P. R., & De Groot, E. (1990). Motivated and self-regulated learning components of academic performance. *Journal of Educational Psychology*, 82, 33-40. Reeve, J., & Jang, H. (2006). What teachers say and do to support students' autonomy during a learning activity. *Journal of Educational Psychology*, 98(1), 209. Reeve, J., Jang, H., Carrell, D., Jeon, S., & Barch, J. (2004). Enhancing students ' engagement by increasing teachers ' autonomy support. *Motivation and Emotion*, 28(2), 147-169. Roeser, R. W., Midgley, C., & Urdan, T. C. (1996). Perceptions of the school psychological environment and early adolescents ' psychological and behavioral functioning in school: The mediating role of goals and belonging. *Journal of Education Psychology*, 88(3), 408. Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist*, 55(1), 68. Ryan, R. M., Stiller, J. D., & Lynch, J. H. (1994). Representations of relationships to teachers, parents, and friends as predictors of academic motivation and self-esteem. *The Journal of Early Adolescence*, 14, 226-249. Sarason, I. G., Sarason, B. R., Shearin, E. N., & Pierce, G. R. (1987). A brief measure of social support: Practical and theoretical implications. *Journal of Social and Personal Relationships*, 4(4), 497-510. Schiller, K. S., Khemlkov, V. T., & Wang, X. Q. (2002). Economic development and the effects of family characteristics on mathematics achievement. *Journal of Marriage & Family*, 66(3), 730. Shahar, G., Henrich, C. C., Blatt, S. J., Ryan, R., & Little, T. D. (2003). Interpersonal relatedness, self-definition, and their motivational orientation during adolescence: A theoretical and empirical integration. *Developmental Psychology*, 39, 470-483. Sinclair, M. F., Christenson, S. L., Lehr, C. A., & Anderson, A. R. (2003). Facilitating student engagement: Lessons learned from Check & Connect longitudinal studies. *The California School Psychologist*, 8(1), 29-42. Skinner, E. A., & Belmont, M. J. (1993). Motivation in the classroom: reciprocal effect of teacher behavior and student engagement across the school year. *Journal of Educational Psychology*, 85, 571-581. Skinner, E. A., Furrer, C., Marchand, G., & Kindermann, T. (2008). Engagement and disaffection in the classroom: Part of larger motivational dynamic? *Journal of Educational Psychology*, 100(4), 765-781. Skinner, E. A., Wellborn, J. G., & Connell, J. P. (1990). What it takes to do well in school and whether I ' ve got it: The role of perceived control in children's engagement and school achievement. *Journal of Educational Psychology*, 82, 22-32. Skinner, E. A., Zimmer-Gembeck, M. J., & Connell, J. P. (1998). Individual difference and the development of perceived control. *Monographs of Society for Research in Child Development*, 63(2), 1-220. Standage, M., Duda, J. L., & Ntoumanis, N. (2003). A model of contextual motivation in physical education: Using constructs from self-determination and achievement goal theories to predict physical activity intention. *Journal of Educational Psychology*, 95, 97-110. Stigler, J. W., & Hiebert, J. (2004). Improving mathematics teaching. *Educational Leadership*, 61(5), 12-17. Stipek, D.J. (1988). Motivation to learn. NJ: Prentice Hall. Technology-based teaching and learning. Retrieved from <http://home.sprynet.com/~gkearsley/engage.htm> Torsheim, T., Wold, B., & Samdal, O. (2000). The teacher and classroom support scale: Factor structure, test-retest reliability and validity in samples of 13 and 15-Year-old adolescents. *School Psychology*, 21, 195-212. Voelkl, K. E. (1997). Identification with school. *American Journal of Education*, 105, 204-319. Wentzel, R. K. (1997). Student motivation in middle school: The role of perceived pedagogical caring. *Journal of Educational Psychology*, 89, 411-419. Wubbels, T. (1997). Paying attention to relationships. *Educational Leadership*, 54(7), 82 – 86. Yeung, A. S., & McInerney, D. M. (1999). Student ' s perceived support from teacher: Impacts on academic achievement, interest in schoolwork, attendance, and self-esteem. Paper Presented at the International Conference on Teacher Education, Hong Kong, China.